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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/226,939	01/08/1999	JOHN K. VINCENT	063170.6289	8916

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EXAMINER

LY, ANH

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/226,939	Applicant(s) VINCENT ET AL.	
	Examiner Anh Ly	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
 4a) Of the above claim(s) 1-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 52-59, 64 and 69 is/are allowed.
- 6) ☒ Claim(s) 40, 44-51, 60 and 65 is/are rejected.
- 7) ☒ Claim(s) 41-43, 61-63 and 66-68 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/22/05 (1st)</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is response to Applicants' AMENDMENT file on 09/21/2005.
2. Claims 1-39 have been cancelled.
3. Claims 40-69 have been added.
4. Claims 40-69 are pending in this application.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 40, 46-51, 60 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 5,325,531 issued to McKeeman et al. (hereinafter McKeeman) in view of US Patent No.: 5,546,570 issued to McPerson, Jr. et al. (hereinafter McPerson).

With respect to claim 40, McKeeman teaches a method of generating dependency information for code objects stored in a database (using incremental dependency analysis feature, RCASE, to generate dependency information graphs and store it in a tables or a database: fig. 6b, col. 13, lines 52-67, col. 17, lines 20-67 and col. 18, lines 20-40); comprising:

generating a dependency information tracking array based on the indication of one or more dependencies of procedural code objects (fig. 6's and analysis the source text or code with all ox text must be recompiled or by examining a developer-prepared dependency and dependency analysis automatically generates dependency information from the application source module: abstract, col. 37, lines 20-47 and col. 38, lines 1-3 and using incremental dependency analysis feature, RCASE, to generate dependency information graphs and store it in a tables or a database: fig. 6b, col. 13, lines 52-67, col. 17, lines 20-67 and col. 18, lines 20-40).

McKeeman teaches automatically dependency graphs or dependency trees as shown in fig. 6B to identify the dependencies between symbols within the application. McKeeman does not clearly teach recursively querying a database for one or more dependencies of procedural code objects stored in the database and receiving an

indication from the database of one or more dependencies of procedural code objects stored in the database.

However, McPherson teaches the execution of SQL queries including SQL statements as source codes for dependencies of procedural code objects with the recursion from database tables in the relational database management system and the directed cyclic graph (DAG) or dependency information is the results in a query execution recursively in a database (figs. 3-5; col. 3, lines 45-67, col. 4, lines 1-67 and col. 6, lines 15-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of McKeeman with the teachings of McPherson. One having ordinary skill in the art would have found it motivated to utilize the use of SQL queries for querying recursively a database to get dependencies of procedures of source codes of SQL statements as disclosed (McPherson's figs. 3-5), into the system of McKeeman for the purpose of implementing queuing and recursion in the execution of SQL queries of database tables in a relational database management system (McPherson's col. 1, lines 10-12 and lines 40-45), because that would provide those having skill in the art the ability to generate a dependency tree based on source code files of objects in the database system and query recursively the dependency tree, thereby helping to develop software programs more efficient (McKeeman's col. 3, lines 1-30).

With respect to claim 44, McKeeman teaches wherein parsing the source code of the database for data manipulation statements that fire triggers comprises parsing the

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source code for UPDATE, DELETE, or INSERT statements (parsing the source code: abstract, fig. 7 and col. 18, lines 40-52, col. 20, lines 5-35 and col. 24, lines 22-40).

With respect to claim 46, McKeeman teaches further comprising compiling one or more code objects stored in the database in debug mode using a database code object debugging tool (col. 5, lines 18-67 and col. 6, lines 1-12).

With respect to claim 47, McKeeman teaches further comprising identifying one or more dependent objects stored in the database that are INVALID (col. 13, lines 28-45).

With respect to claim 48, McKeeman teaches further comprising identifying one or more cyclic dependencies among code objects stored in the database (col. 2, lines 32-44; col. 6, lines 25-45; col. 5, lines 18-67 and col. 6, lines 1-12).

With respect to claim 49, McKeeman teaches wherein identifying one or more cyclic dependencies comprises utilizing a graph traversal algorithm to identify one or more cyclic dependencies (col. 2, lines 32-44; col. 6, lines 25-45; col. 5, lines 18-67 and col. 6, lines 1-12).

With respect to claim 50, McKeeman teaches further comprising generating a dependency graph for code objects stored in the database based at least in part on the dependency information tracking array (abstract).

With respect to claim 51, McKeeman teaches wherein the database comprises a database catalog; and wherein querying the database comprises querying the database catalog (col. 13, lines 5-67 and col. 14, lines 1-45).

Claim 60 is essentially the same as claim 40 except that it is directed to a system rather than a method, and is rejected for the same reason as applied to the claim 40 hereinabove.

Claim 65 is essentially the same as claim 40 except that it is directed to a computer readable medium rather than a method, and is rejected for the same reason as applied to the claim 40 hereinabove.

8. Claims 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 5,325,531 issued to McKeeman et al. (hereinafter McKeeman) in view of US Patent No.: 5,546,570 issued to McPherson, Jr. et al. (hereinafter McPherson) and further in view of US Patent No. 5,926,819 issued to Doo et al. (hereinafter Doo).

With respect to claim 45, McKeeman in view of McPherson discloses a method for identifying topics as discussed in claim 40.

McKeeman and McPherson disclose substantially the invention as claimed.

McKeeman and McPherson do not teach data manipulation statements that fire triggers.

However, Doo teaches DML statement being applied to fire the triggers (col. 5, lines 22-42, also see figs. 2-4).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of McKeeman in view of McPherson with the teachings of Doo by incorporating the use of data manipulation

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statements such as DML to fire the triggers. The motivation being for generating a dependency tree based on source code files of objects in the database system and query recursively the dependency tree, thereby helping to develop software programs more efficient (McKeenman's col. 3, lines 1-30).

Allowable Subject Matter

9. Claims 41-43, 61-63 and 66-68 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. (by incorporating claims 41-43 into claim 40, claims 61-63 into claim 60 and claims 66-68 into claim 65).
10. Claims 52-59, 64 and 69 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Claims 52, 64 and 69 are allowed because these claims have some distinct features: "parsing the source code of the database for data manipulation statements that fire triggers and generate a dependency information tracking array based on the indications of one or more dependencies of procedural code objects stored in the database, one or more dependencies of specifications of object-oriented code objects stored in the database, one or more dependencies of implementations of object-oriented code objects stored in the database and one or more dependencies on triggers of code objects stored in the database." These distinct features, in conjunction with all

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other limitations of the dependents and independent claims render claims 52-59, 64 and 69 them allowable.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ly whose telephone number is (571) 272-4039 or via E-Mail: ANH.LY@USPTO.GOV or fax to **(571) 273-4039**. The examiner can normally be reached on TUESDAY – THURSDAY from 8:30 AM – 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene, can be reached on (571) 272-4107 or **Primary Examiner Jean Corrielus (571) 272-4032**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Any response to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, or faxed to: Central Fax Center **(571) 273-8300**

ANH LY 
DEC. 1st, 2005


JEAN M. CORRIELUS
PRIMARY EXAMINER